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ates and denies. Again, we ignore the presence of the audience as much as possible, even in our soliloquies, while both the French schools emphatically acknowledge and address the public, making it what may be called, in Irish, a silent interlocutor.

I have elsewhere deprecated the vain pretense that acting is an effusion uncontrolled by art; but, with great deference to the old school, I deny that it is a purely artistic process uninspired by "a fine phrenzy." To reconcile the two operations is the method of the romantic school of Young France, and of the Anglo-American school in this country; where I contend that, in comedy, our study of nature is more close and more faithful, and, if the term may be used, more effortless, than we find in either of the French methods.

DION BOUCICAULT.

II.

THE REGENERATION OF THE COOKING-STOVE.

DURING the first eight months of 1888 we took out of our Pennsylvania hills 23,619,291 tons of anthracite. During the year, at least 38 million tons were distributed among our shops, railroads, steamboats and kitchens.

It may be humiliating to confess it, but our civilization is to-day founded on a fire-pot. Beauty would faint were it not for the kitchen range, and wit grow cold without the furnace fire. Trade at the arts would stand still were it not for the steam boiler.

When in 1828 Neilson patented his hot blast the steel rail became possible, and without the rail the Republic would be impossible.

When an oil lamp is lighted, the wick must be turned down, because, as we all know, the flame in a few moments grows brighter and hotter. The lamp is a hot blast in little. The oil rising in the wick approaches a small zone of high temperature, and is turned into a gas. This gas chemically unites with the oxygen of the air, and the result is heat and light. The fixtures about the flame soon become heated, and the air passing through the brass work takes up a part of this heat. As a result, the oxygen meets the oil at a higher temperature, and the chemical action is more rapid, hotter. Neilson's idea was an inspiration. He heated the air blast blown into a furnace, and got more heat out of his coal.

Other men went further, and in gas-fired furnaces heated the gas as well as the air, and, developing Neilson's hot blast, gave us the modern high temperature regenerative furnaces. A few years ago Siemens applied the idea to gas lamps. A regenerative gas lamp is one in which the gas and air are both raised to a high temperature before they reach the burner. The result of this regeneration is more light and heat at a material saving of gas.

All combustion is now thought to be really the burning of a gas. The lighted match brought to the candle wick vaporizes the wax, and it unites with the oxygen to give heat and light. The wick then becomes a gas producer. Practically, every lamp is a gas lamp. The poet, toasting his shins before the hearth, may sing of the blazing hickory, but his back-log and fore-stick are only gas works in little, and the crackle and singing of the fire are only the blowing up of miniature gas tanks.

With the exception of a simple form of hot-blast steam boiler furnace invented in this country, the regenerative idea has not spread beyond a few gas lamps and the high-temperature furnaces in glass works, iron works and steel mills. And yet we are told that, at our present enormous output of anthracite, we shall see our mines exhausted in less than a hundred years. Of all this vast tonnage burned in our steam boilers and ranges, only an infinitely small percentage gives us useful heat. The American cook stove is perhaps the best thing of its kind ever invented, and yet it is a scientific shame. We probably use up every day in the year fifty times the fuel actually needed to make the morning coffee and rolls of the nation. Of course, there are many causes for this waste, but chief among them is the fact that we use cold-blast stoves. Every housemother knows that the fire burns better in a hot stove than in one just started—because the air needed for combustion is warmer, because in a certain way the stove makes its own hot blast.

Why does not some bright stovemaker copy the regenerative gas lamp, and make his products of combustion heat his blast? How it may be done is not here to say. It can be done, and the man who will do it will be a second Neilson. Furthermore, hot fuel is better than cold fuel, just as a hot blast is better than cold air. The coming cook-stove will be a regenerative stove—probably a gas stove—and when it comes cooking will be a pleasure as well as a fine art, adding greatly to the general sum of happiness around the national breakfast table.

This way lies the path of progress. Our system of getting fuel out of the ground is wasteful enough. Our common method of burning it is wasteful to the last degree, wasteful of time, labor, comfort, temper and money. The regeneration of the cook-stove is worthy of our highest scientific thought and study.

CHARLES BARNARD.

III.

COFFEE-DRINKING AND BLINDNESS.

HAVING for the past fifteen years made a special and continuous study of diseases of the eye, and the morbific agencies affecting that organ, I must confess surprise at the novel and startling claims of Dr. J. M. Holaday in his article upon "Coffee-Drinking and Blindness," in the September number of the NORTH AMERICAN REVIEW. The statements of the writer in relation to the effects of coffee-drinking upon the eye, find little or no support in the testimony of the great body of learned oculists whose evidence upon the subject of ophthalmology certainly deserve some consideration. There is a positiveism and almost dogmatism in the writer's assertions that would seem to demand more accuracy of physiological statement, and more amplitude of clinical evidence than he adduces in their support, and personal idiosyncrasy renders many common articles of food poisonous to some persons, while the same articles are health-giving and almost indispensable to others ; and the facts which the author sets forth in regard to the influence of coffee upon his vision only emphasizes this general law. He says : "I have no doubt but what this weakness of the eyes, which results from coffee-drinking, is due to the sympathy which the optic nerve has for the nasal cavity." If in his physiological researches the writer has established the facts set forth in this claim, he owes it to the cause of humanity to enlighten the medical profession upon the intricacies of the mysterious path by which he has reached the important discovery. He further says, "The brain, again, is intensely affected thereby (coffee-drinking), because the principal nerves of the brain branch off from the nasal cavity." To our mind, neither the physiological nor anatomical fibre of this quotation would suffer from further elucidation. His graphic description of the "slim and ghastly" multitude of "runts," with "eyes and features rendered flat" by coffee-drinking, meets a daily refutation in the stalwart, bright and full-eyed multitude, who have reveled for a life-time in the delectable aroma of this subtle and "death-dealing" coffee, with no thought of surrendering either their beverage or their vision. Again, in the face of the experience of the whole military world to the contrary, our author makes the assertion that coffee militates against "a muscular